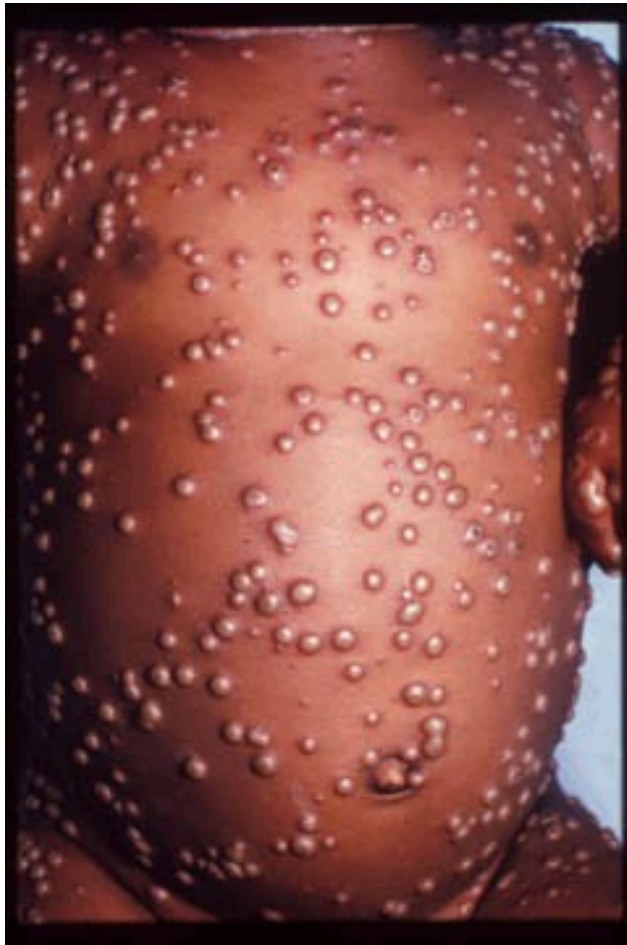


# DoD Smallpox Response Plan



22 Sep 05

COL John D. Grabenstein, RPh, PhD  
Military Vaccine Agency  
US Army Medical Command

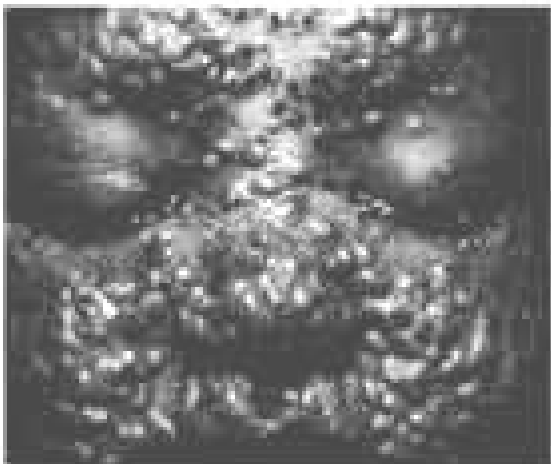


**Process** – 430-page plan for DoD's global duties,  
developed using 10 teams of subject-matter experts

**Purpose** – To prepare for and respond to smallpox outbreak,  
regardless of magnitude or location.  
Provides for both ring vaccination and wide-area  
vaccination.

**Scope** – Smallpox outbreaks on military installations  
or during contingency operations around the world,  
as well as military support to civil authorities.

**Status** – Officially adopted by DEPSECDEF, 29 Sep 02





## *Facts: Smallpox the Disease*

Reputation: “The most terrible of the ministers of death.”

Reality: Tortoise, not hare

Contagious disease caused by variola virus, Orthopoxvirus family.

30% case-fatality rate overall, but confluent & hemorrhagic forms 97% fatal

Smallpox cases infected 3 to 5 other people, 58% of household contacts.

- a. Smallpox spreads primarily by prolonged (~ 1 h) face-to-face contact.
- b. ~ 15 days between generations of smallpox cases.

Quickest way to contain and halt a smallpox outbreak:

- a. Isolate infected people after onset of fever  $> 101^{\circ}\text{F}$ .
- b. Trace and vaccinate contacts of cases, as well as their contacts.
- c. Wide-area vaccination in support (e.g., battlefield, remote areas).

One successful vaccination protects  $> 95\%$ .

- Protection wanes over decades.



## *Assumptions Relevant to DoD*

- Smallpox virus exists outside sanctioned stockpiles.
- Smallpox attack could be multifocal, domestic +/- overseas.
- DoD objective: Preserve & sustain critical mission capability of US forces, emergency-essential civilians, contractors.
- Policy for families, retirees, and other DoD workers:
  - Consistent with DHHS civilian vaccine policy.
- Implementation of DoD policy will be coordinated with interagency partners and allies.



# *Table of Contents*

DoD Smallpox Response Plan, version 3.1, 29 Sep 02, 430 pages:

Basic Plan

Annex A. Surveillance, Contact Tracing, & Epi Investigation

Annex B. Vaccination Guidelines

Annex C. Isolation & Quarantine Guidelines

Annex D. Specimen Collection Guidelines

Annex E. Communications Plans & Activities

Annex F. Decontamination Guidelines

Annex G. Medical Care Of Smallpox Patients (Variola Infection)

Annex H. Medical Care Of Adverse Events After Vaccination

Annex I. Medical Logistics & Product Distribution

Annex J. Resources

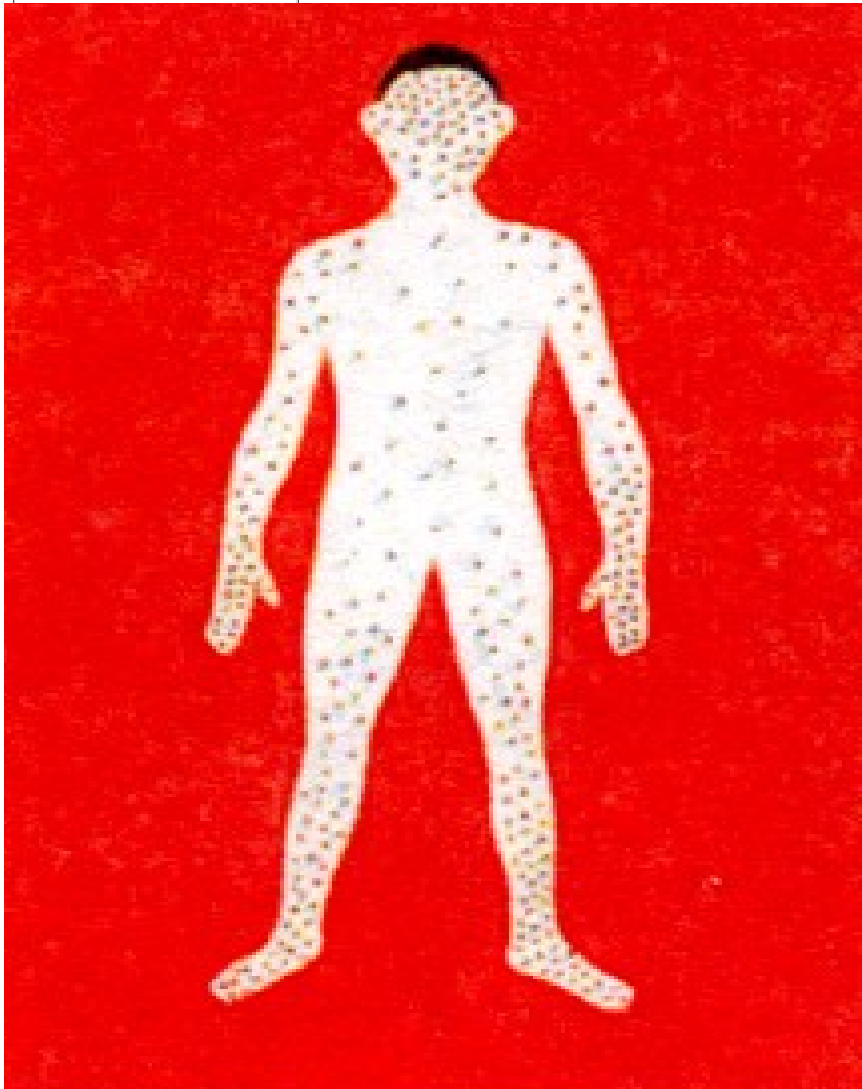
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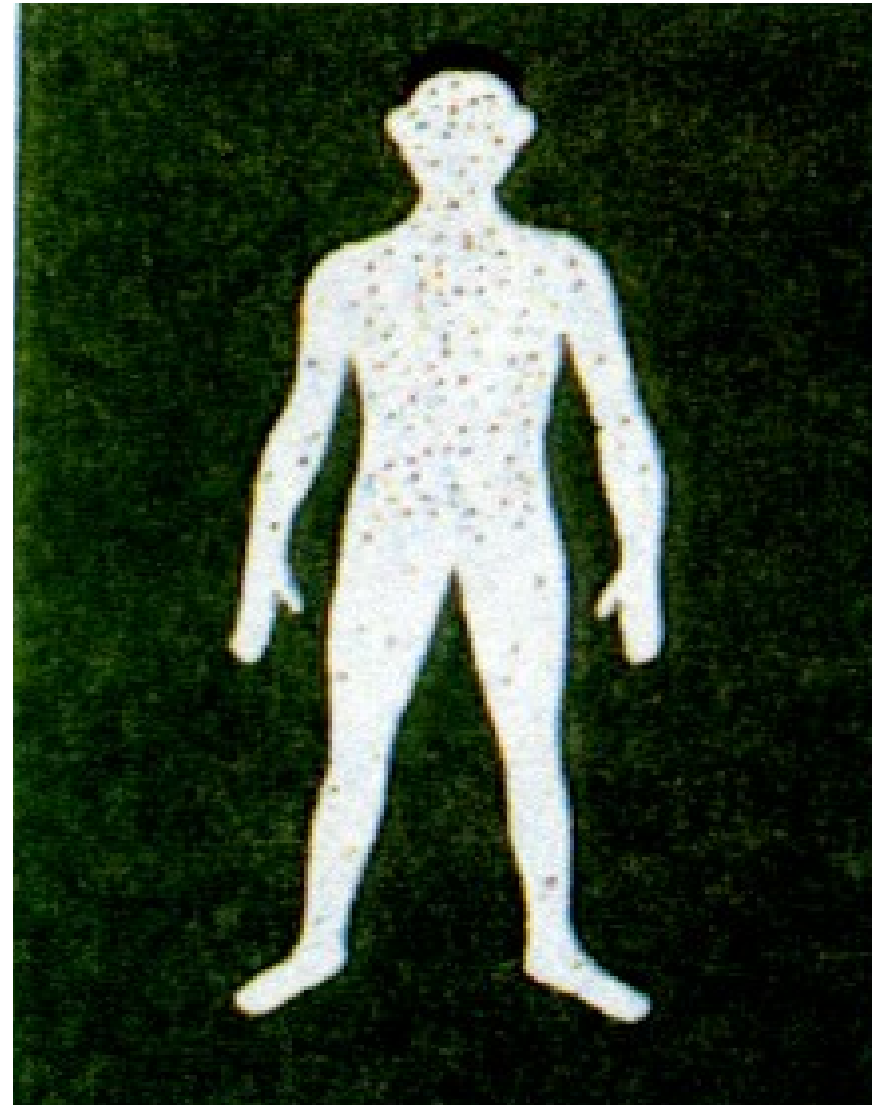
## ***Before an Outbreak***

*DoD Smallpox Response Plan, 29 Sep 02*

1. Combatant Commands, Services, and installations develop, exercise, and improve supporting smallpox response plans.
2. Tasks for Installation and Medical Commanders:
  - a. Identify facilities for mass vaccinations.
  - b. Identify facilities
    - to treat contagious smallpox cases (Type C facilities);
    - for people with fever but no rash (Type X, unknown);
    - for contacts “at home” unless feverish (Type R, residential).
  - c. Train health-care providers to recognize smallpox.
  - d. Implement surveillance for defined fever-rash illnesses.
3. Train and exercise smallpox response teams:
  - a. Smallpox epidemic investigation teams (Epi-Teams)
  - b. Specialized treatment teams (T-Teams)



**Smallpox  
(Varicella)**



**Chickenpox**





# *Reporting a Suspicious Case*

*DoD Smallpox Response Plan, 29 Sep 02*

Report “Generalized Febrile Vesicular-Pustular Rash Illness” (GFVPRI) promptly:

1. Report immediately through Service disease-reporting systems, starting with local preventive-medicine / public-health service.
2. Submit Serious Incident Report (SIR) to higher HQ.
3. Call CDC Emergency Preparedness & Response Branch.
4. Notify State Health Department.  
If OCONUS, work with host nation.



# *Military Treatment Facility Response*

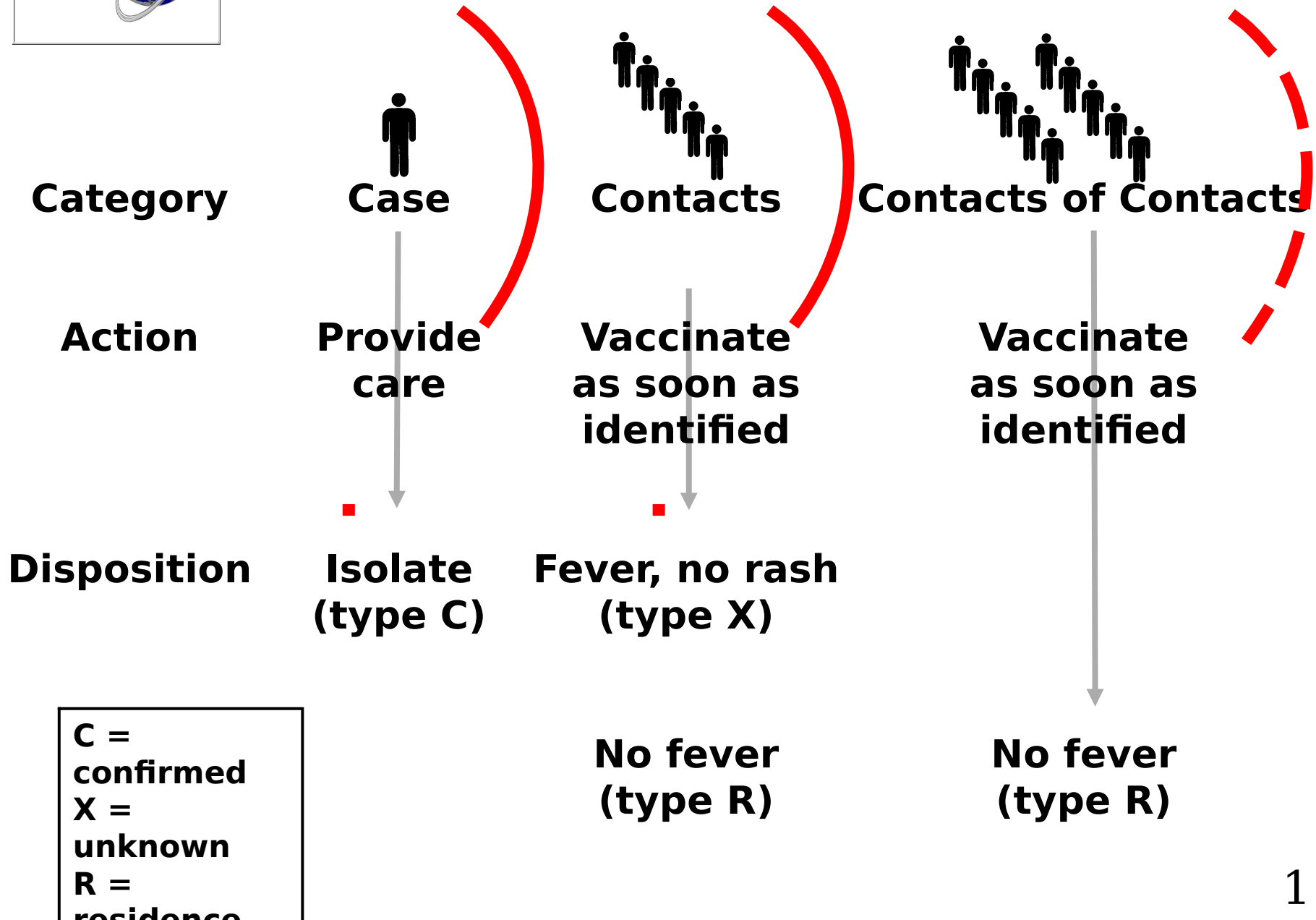
*DoD Smallpox Response Plan, 29 Sep 02*

If smallpox outbreak on DoD installation, Military Treatment Facility will:

1. Conduct active surveillance for other smallpox cases.
2. Isolate rash-fever cases during evaluation, to reduce spread.
3. Identify contacts of rash-fever cases.
4. Vaccinate contacts, and contacts of contacts, and monitor them for fever.
5. Vaccinate non-contact high-risk personnel (health-care, security).
6. Conduct wide-area vaccination, according to situation.



# *Regaining Control*





## *Wide-Area Vaccination*

- How wide is wide enough? Too wide?
  - Social clusters, units (administrative simplification)
    - Neighborhood, city, county, metro, ...
  - Threshold for military units somewhat lower
    - Military families on installations, nearby
- How close is close enough? Far enough?
  - Proximity to confirmed cases
  - Proximity to air hubs: Atlanta vs. Dakotas
  - Shape of the epi curve: 50 cases in 1 week vs 1 year
  - Indonesia vice Honolulu vice Kansas City



# *Military Unit Actions*

*DoD Smallpox Response Plan, 29 Sep 02*

Consider advantages and disadvantages of restricting movement. Examples:

1. *Ship at sea isolated for  $\geq 18$  days:* Stay at sea until response underway.
2. *Outbreak in Atlanta:* Fort McPherson, Atlanta NAS, Robins AFB, Beaufort MCAS, Charleston CGG: Conduct active surveillance for fever. Limit entry. Closing gates has limited value.
3. *Aircrew:* Minimize air traffic between installations, until aircrew interviewed about fever, rash, travel, vaccination.



## *Restrict Movement ?*

*DoD Smallpox Response Plan, 29 Sep 02*

1. No value in isolating people without symptoms: not contagious.  
They do need education in self-monitoring for fever.
2. Don't shut off ventilation, unless you know effect on ORs, isolation rooms, building idiosyncrasies.
3. Don't pull up the drawbridge and depend on the moat.
  - a. Limit entry, but closing gates won't keep all contagious people out.
  - b. People exposed up to 18 days ago may already be inside.
  - c. Restrictions imposed today require 2+ weeks to take effect.
4. Value in having gate guards prevent known-by-name exposed people from leaving, until they can be interviewed.
5. In some ongoing outbreak situations, may be appropriate to require vaccination to enter installation.



Services form response teams and medical teams. Train and vaccinate team members. Exercise teams.

Installations developing local supporting plans (e.g., identify needed facilities).

Services training health-care providers to recognize smallpox and implement surveillance for defined fever-rash illnesses.

Training issues:

- How to use bifurcated needle.
- Bandaging, isolation, duty limitations after vaccination.
- Learning curve: ACCOMPLISHED!

[THE DANGER](#)[THE VACCINE](#)[THE PRIORITY](#)[THE STRATEGY](#)[adverse event info](#)[education toolkit](#)[resource center](#)

## SMALLPOX VACCINATION PROGRAM

[contact us](#)**MIL VAX**

- Smallpox is contagious, deadly, and would disrupt military missions.
- Smallpox vaccine prevents smallpox and we will use it carefully.
- Preserving the health and safety of our people is our top concern.
- The Defense Department's smallpox vaccination program is part of our national strategy to safeguard Americans against smallpox attack.

[Program](#)[SVP Online Proficiency Training](#)[DoD's Smallpox Vaccination Lessons Learned](#)[MMWR-Vaccinia Adverse Reactions](#)[Security Notice and External Link Disclaimer](#)

Last Updated 01/27/2003

# www.smallpox.mil





# ***DoD Smallpox Vaccination Policy***

- Announced by President Bush, 13 Dec 02.
  - Vaccinating troops before an attack is best way to ensure they are protected and can continue their missions.
- Stages:
  - Stage 1a: Smallpox Epidemic Response Teams (SERTs).
    - 2,000 people, began mid-Dec 02
  - Stage 1b: Medical Teams for Hospitals & Large Clinics.
    - 10,000 people, began early Jan 03
  - Stage 2: Mission-Critical Forces, especially CENTCOM.
    - > 800,000 troops, began early Jan 03
- Jun 04: Expand to Korean Peninsula, PACOM Forward Deployed Naval Forces, C-Day to C+20



## *DoD Smallpox Vaccination Program as of 6 Sep 05*

- Response teams, hospital workers, operational forces
  - Screened: 940,000      - Vaccinated: 866,230
  - Primary: 71%      - Male: 89%
- Exemption process working well
  - Eczema vaccinatum— 0      — Progressive vaccinia— 0
- Education working well, but we can do better
  - Auto-inoculation—84
  - Contact transfer vaccinia—54:      “Don’t let guard down at home.”
    - Family— 22, intimate— 19, friend— 13, patient— 0
  - Peri-vaccination Pregnancy—75% undetectable
- VIG treatments more rare than expected:      Burn— 1, eye— 2
- Encephalitis— 1
- Myo-pericarditis—102:      Suspect— 11, probable— 87, confirmed— 4
- Deaths:      Possible— 1 (lupus-like illness)      Unrelated— 6
- Derived from 1,668 VAERS reports and other sources

# Smallpox Infection Timeline

Post-exposure vaccination fully or partially protective through day 4 after exposure.

Average smallpox case infects 3 to 5 people. About half of close contacts are infected.

First symptoms develop 7 to 17 days after exposure; average depicted here as day 11.

After symptoms develop, isolate case. Trace and vaccinate contacts.

Communicability	Exposure = Day 0	Symptoms	Day of Symptoms	Disease Progress
Not contagious	Day 1	No symptoms		Virus introduced to respiratory tract
	2			
	3			
	4			Virus appears in lymph nodes
	5			
	6			Virus replicates in lymph system
	7			
	8			
	9			
	10			
Contagious	11	First symptoms	Day 1	
	12		2	Fever, backache, headache, nausea, malaise
	13		3	
	14		4	
	15		5	Macules (spots)
Very contagious	16	Rash	6	Papules (bumps, pimples)
	17		7	
	18		8	
	19		9	Vesicles (blisters)
	20		10	
Contagious	21		11	Pustules (pus-filled blisters)
	22		12	
	23		13	
	24		14	
	25		15	Scabs
Scabs contagious	26		16	
	27		17	
	28		18	
	29		19	
	30		20	
Not contagious	31			Scars
	32			



## ***Vaccinia Lessons Learned***

- Careful screening reduces adverse events  $<$  or  $=$  1960s levels.
  - VIG needed less frequently than expected.
- Education and screening are rate-limiting steps.
- 3 or 15 jabs yield high “take” rates.
- Clinicians ‘alarmed’ by first (maculopapular) rashes they saw in vaccinees; lessened with experience.
- Secondary spread of vaccinia: greatest risk is to bed partners.
- Myo-pericarditis is greater risk than anticipated, principally male, primary vaccinees in DoD’s experience.